

Functional Design on Office Automation System for Software Enterprises

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Abstract. Office automation system can effectively improve office efficiency and enhance collaborative work capacity, reduce repetitive work and complexity of manual operation. This paper studies office automation system functions for the application of software development enterprise. Using use case model to describe the system requirements, using the module structure diagram to build the system function framework, the main functions of the system are described. Specific functions include: System management, Training management, Project management, Staff management, Office supplies management, Reimbursement management, Evaluation management, Conference management, Overtime management, Official document management, Books management, Vehicle management. The system successful application can improve the office conditions, and standardize the process, making software enterprise management more scientific and modern.

Introduction

Office Automation (OA) is a comprehensive technology based on advanced science and technology, information technology, systems science and behavioral sciences as the pillar, Based on system science, taking behavior science as its leading science and utilizing information technology to complete various office operations [1]. OA is a new office mode of the information society, which combines the functions of modern office and computer network. With the development of information technology, OA is playing an increasingly important role in the management of enterprises and institutions, business activities. Through the network, the organization's internal staff can span time and place to work. OA from birth to today has gone through three stages [2]. The first stage is the emergence and use of personal computers and office suite as the main feature; the second stage is to network technology and collaborative work technology as the main feature; The third stage is a financial information processing, business process and knowledge management applications in one system, knowledge management as the core, providing a wealth of learning and knowledge-sharing mechanisms to ensure that users can learn from experts anytime according to the requirement, to the enterprise existing knowledge and learning, so that office staff position in the OA system from passive to take the initiative to change, effectively improve office efficiency and enhance collaborative work capacity, reduce repetitive work and complexity of manual operation. With the continuous development of microelectronics technology, computer technology and communication technology, OA system in government agencies, large enterprises and institutions has been more widely used. In this paper, software companies to develop suitable for office automation systems, develops an office automation system, which is suitable for the software enterprise, to improve the office efficiency.

Use Case Model

Use case model is a model of the system established functions and system environment, as the contract between the client and the developer. In UML, the use case model is defined as: use case model can be used to describe the system functional requirements or other classification of use cases. In the process of software development, the model is used to simplify and generalize the

reality, so as to strengthen the understanding of the real construction system. These components of use case model, both graphical representation, but also contains the text representation, and therefore may be more intuitive to express the needs of users.

The participants in the software enterprise office automation system including six categories, respectively is: System administrator, responsible for the management system permission assignment and system maintenance; Software project manager, responsible for the whole process of managing software development projects; Senior project manager, assisted Software project manager, and complete the "Evaluation management and Overtime management" and other work; Training director, corporate training related to work management; Recruiting director, responsible for the recruitment and induction of new employees to handle; Administrative personnel, responsible for all administrative affairs management. System use case model is shown in Fig. 1.

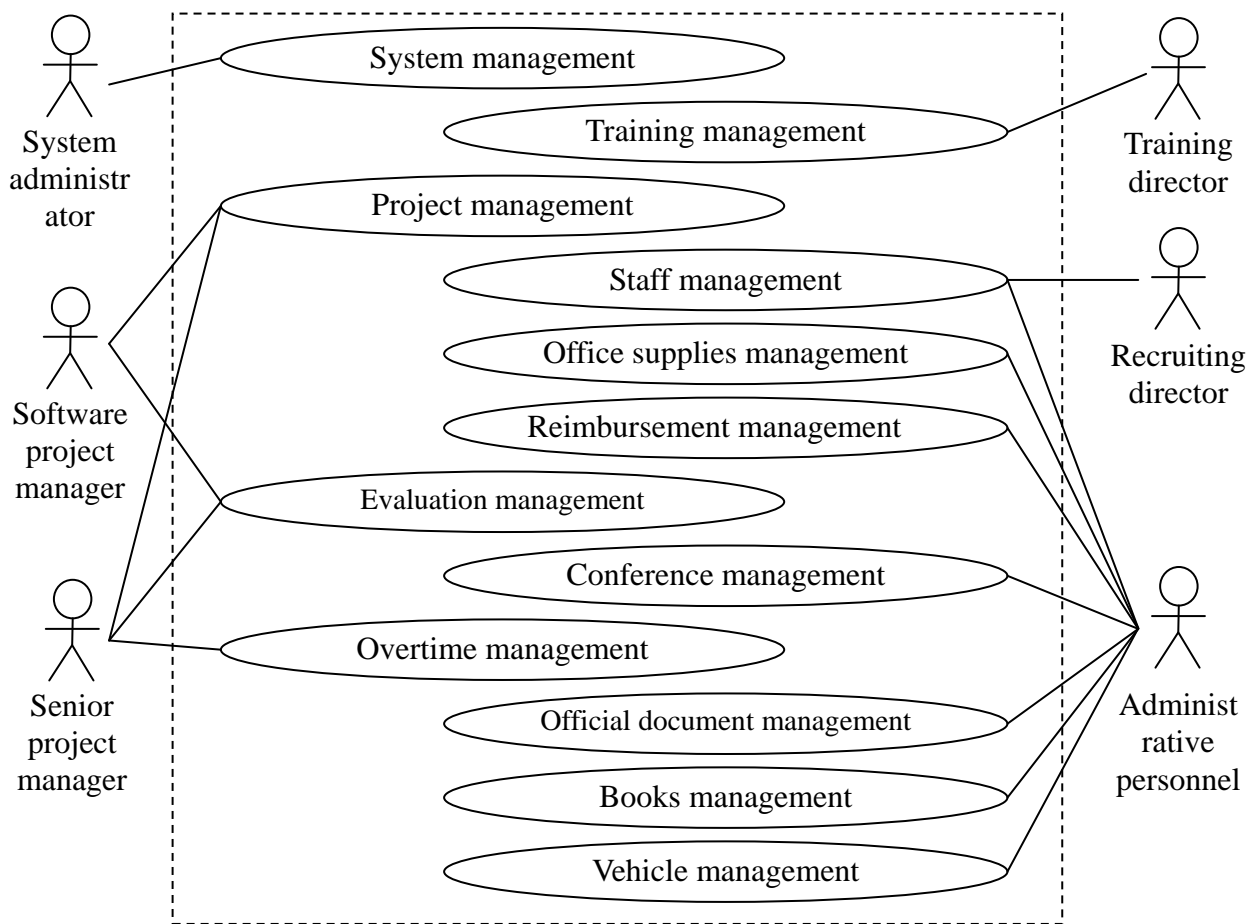


Fig. 1. Use case model on office automation system for software enterprises

Functional Framework

Functional framework structure is decomposed to system functions, according to the affiliation relationship represented the graph, and each rectangle of the figure is called a function module. Functional decomposition process from large to small, from coarse to fine, from top to bottom. Conceptually speaking, the upper layer functions control the lower layer functions, and the more the more upper function is more general, the lower function is more specific. Functional decomposition process is from the abstract to the concrete, from the complex to the simple process. Functional modules can be divided according to the specific circumstances of larger or smaller, decomposition in the smallest functional modules may be each process of a program, while larger function modules can be a set of procedures that complete a task. Through the analysis and synthesis, referring to the results of other people's research, the 6 types of user functions can be divided into 12 modules, 48 sub modules, and functional framework as shown in Fig. 2.

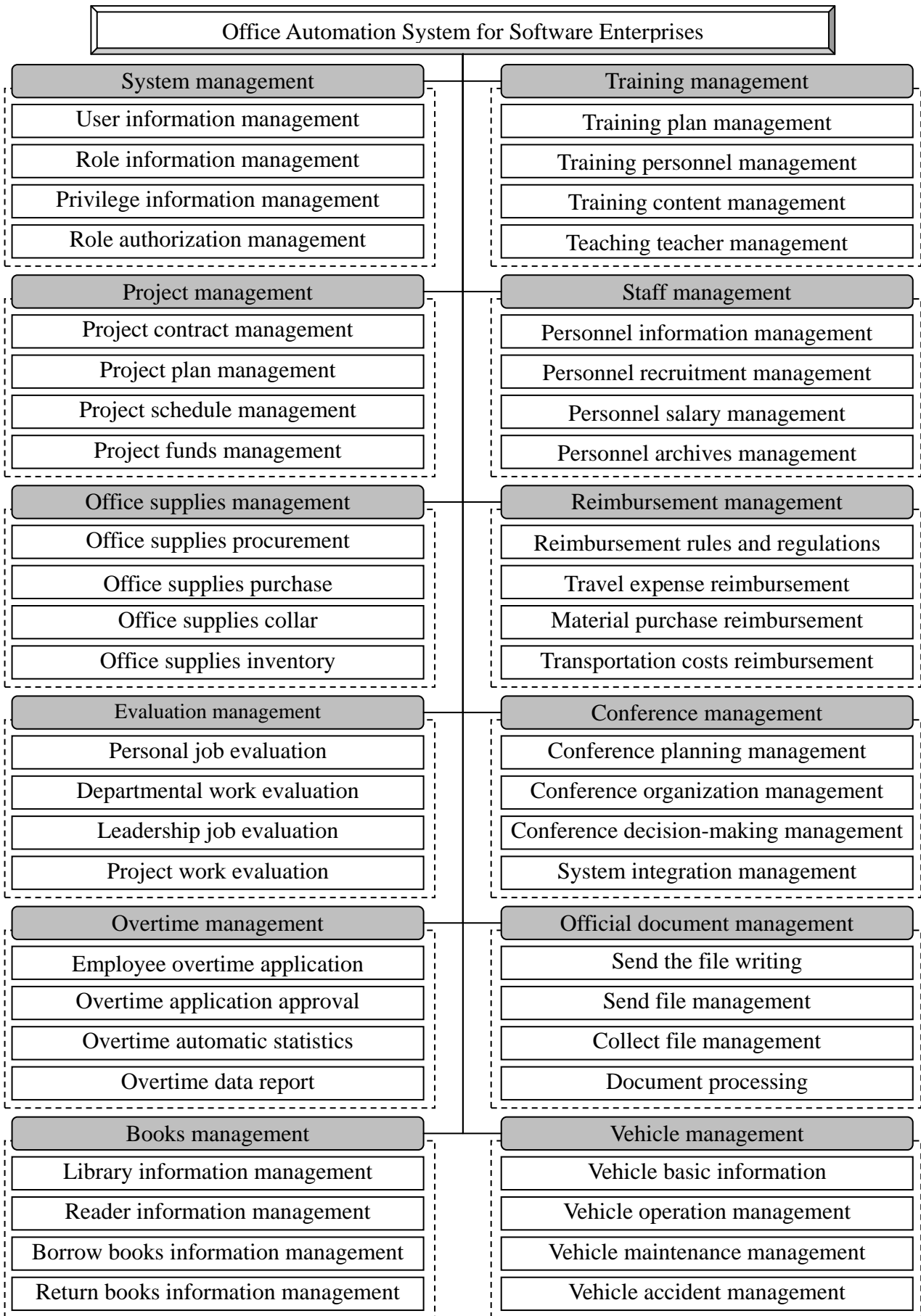


Fig. 2. Functional framework on office automation system for software enterprises

Functional Description

In the functional framework shown in Fig. 2, including 12 modules, each module also includes a number of sub-modules, briefly described as follows [6-8]:

(1) System management. Content of system management is a lot, this module is mainly for permissions management. Permissions are generally means the safety rules set by the system or security policy, users can access and can only be authorized access to their resources. Role is a collection of part of privileges, and permissions are the mechanism for managing user access. Usually the user has all the rights and privileges to his role given by administrator rights.

(2) Training management. Staff training is increasingly being valued by business, has become an important part of enterprise management. Staff training management in line with regulations of enterprise employees, to meet the needs of business daily staff training, and reaches the operation intuitive, convenient, fast and safety requirements. Make full use of the company's existing resources to help the personnel department to improve work efficiency, to achieve the systematic, standardization and automation of enterprise training information management.

(3) Project management. Project manager specialized application modules of project management, and in the constraints of limited resources, using systematic view, method and theory, the project involves all the work for effective management. the whole process starting from the investment decision of the project to the end carry on planning, organizing, directing, coordinating, controlling and evaluation, in order to achieve the objectives of the project. Managers can obtain the relevant information about the activities and resources of the project through this module.

(4) Staff management. It is a scientific, comprehensive and efficient system of enterprise personnel management, referring to the theory of human resource management in China, rooted in the design of the actual situation of domestic management. Content is including the establishment and maintenance of the organization, personnel information input and output, adjustment and payment of wages and a variety of reports to draw and output and other functions. Operating on the set of input, maintenance, query, statistics, printing, output and other processing as a whole, and it is simple and flexible, powerful automation.

(5) Office supplies management. For the office supplies management, often appear in the repeat purchase and waste of idle situation, the implementation of from purchasing, receiving used distributed process management, improve office staff productivity, increase efficiency, and reduce costs, really realize austerity principle. Simple and beautiful interface, intuitive operation, easy to use, no special training can be used normally. Easy to achieve informatization, normalization and standardization of item management work, is the first choice tools for office supplies management.

(6) Reimbursement management. Describe how to manage employees' travel expenses. Through the basic information input and maintenance for reimbursement, to achieve the management of the reimbursement information, Basic information maintenance of reimbursement can be reimbursed basic information queries, you can modify and delete query results, including the basic information of reimbursement input, reimbursement basic information maintenance. The system also provides material procurement reimbursement and reimbursement regulations query, and other function.

(7) Evaluation management. In the evaluation of employee information, shall focus to include employee's work performance and work attitude information, and other information, through immediate entry work performance of employees, work intensity, working time, and complete the tasks and other information, to achieve employee performance evaluation. Evaluation of individual workers is the core function of the module, also provides sector job evaluation, leadership evaluation and project evaluation and other functions.

(8) Conference management. It is including conference program management, conference organizational management, conferences decision management, systems integration management, and other function. Conference program management, for enterprise important meeting to manage the conference program, intelligent reminder, association function is activated, conferencing configuration and other business management; conference organizational management, an enterprise important meeting on topics specified, topic collection, issues escalation, issue approval, subject material prepare, topics lists of issues, initiate meetings, and so on; conferences decision

management, inspection issues, issues notes, issue reporting and decision-making issues and convenient management, improve the efficiency and effectiveness of the decision-making meetings

(9) Overtime management. Overtime is used to manage the whole process of overtime work. Mainly to complete the functions include: employee self overtime application functions; management personnel overtime approval management function; automatic statistics work overtime and limit overtime functions; employee self-inquiry overtime data capabilities; and the general, holiday and overtime calculation function; automatic generation a variety of data reports to work overtime.

(10) Official document management. Document management standards in accordance with national norms related to design implement, strictly and accurately standardization and streamlining processing of documents. Compared with the traditional document processing is concerned, it has greatly improved the efficiency and accuracy of document processing, user operation is simple and convenient, and by connecting with the file management system will complete the transfer of documents directly into the file management system.

(11) Books management. For various books and materials of the enterprise carry on manage. Book information management, including Book Number, ISBN number, the call number, Chinese name, formerly known as, the original, the translator, the book category, language, publishing houses and the like; readers information management, including reader number, type, sex, ID number, work unit, the application date; borrow the book information management, including the borrower number, type, borrow the book number, loan date, should be returned to date.

(12) Vehicle management. Office and subordinate units have a certain number of vehicles, and vehicle management has become an important work of everyday things. This module centralized management vehicle basic information, operations, maintenance, accidents, illegal and a series of information, effective tracking and managing every single car usage, improve work efficiency, and enable enterprises to vehicle management more scientific, more standardized.

Conclusion

The current OA system has many problems, mainly displays in: no suitable application software, lack of technical team, construction goals are not clear, construction investment to management and decision analysis system is not enough, not directly on the utilization of all types of information, most of staff computer application level is relatively low [6]. Results of this study have solved the functional problems of OA system. The successful application of this system can promote software companies to improve the office environment, improve working conditions, and standardize processes, making management more scientific and modern.

References

- [1] Y. Miao, J. Zhou, L. Tao, "Realization of Key Technologies for Enterprise Collaboration Office Automation System Based on Workflow," *Computer Technology and Development*, vol. 21, no. 3, pp. 90-93, 2011.
- [2] L. Wang, "The Design of a Data Exchange Layer for OA Systems and Relevant Implementation Based on Domino," Master's Degree of Suzhou University, 2004.
- [3] F. J. Ma, "Application and Implementation of OA System in Enterprise Information Management," *Computer Knowledge and Technology*, vol. 11, no. 2, pp. 6-7, 2015.
- [4] T. P. Dong, "Design and research on the application of document based on OA system," *Information & Communications*, vol. 27, no. 9, pp. 204-205, 2015.
- [5] Y. J. Niu, "Analysis and Design of Office Automation System Based on UML," *Computer & Digital Engineering*, vol. 43, no. 7, pp. 1345-1349, 2015.
- [6] H. Shen, H. Q. Su, "Service-oriented E-government General Office Automation System Design and Function to Achieve," *Journal of Guangxi Academy of Sciences*, vol. 26, no. 4, pp. 503-506, 2010.